FIG. 1

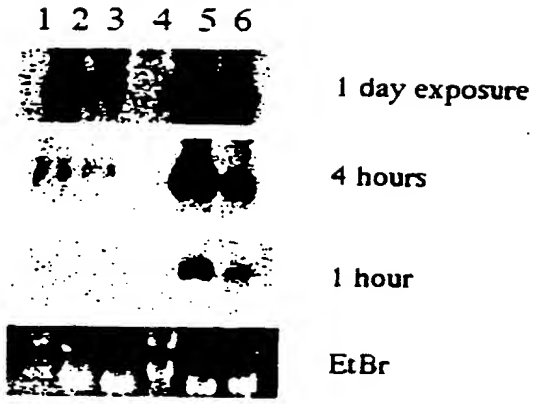


FIG. 2A

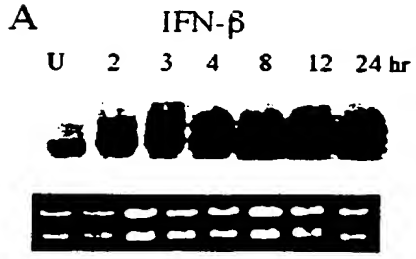
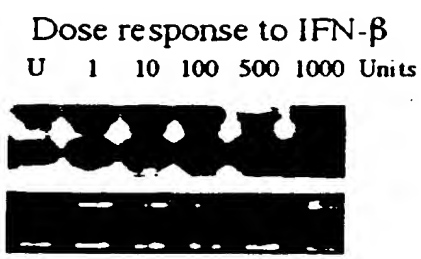
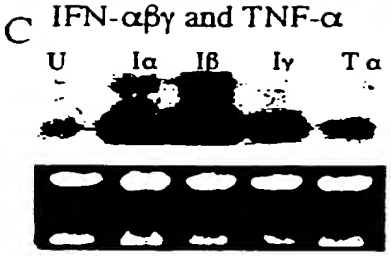


FIG. 2B





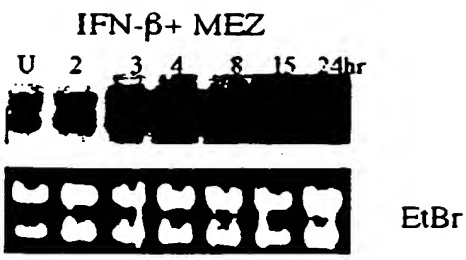


FIG. 2C

FIG. 2D

FIG. 3A

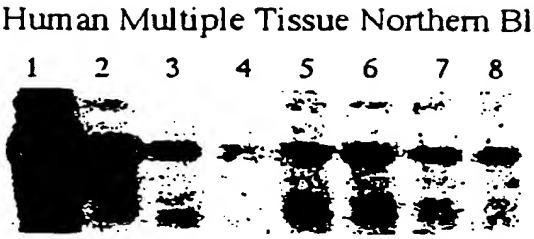

Human Multiple Tissue Northern Blot
1 2 3 4 5 6 7 8

FIG. 3B

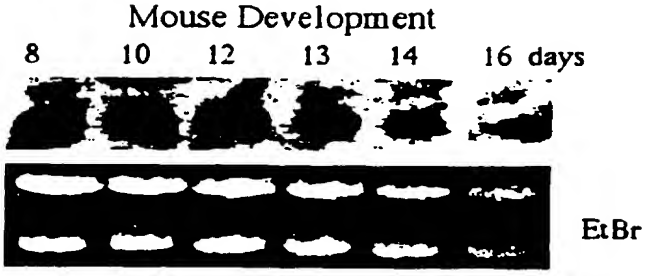

Mouse Development
8 10 12 13 14 16 days
EtBr

FIG. 4A

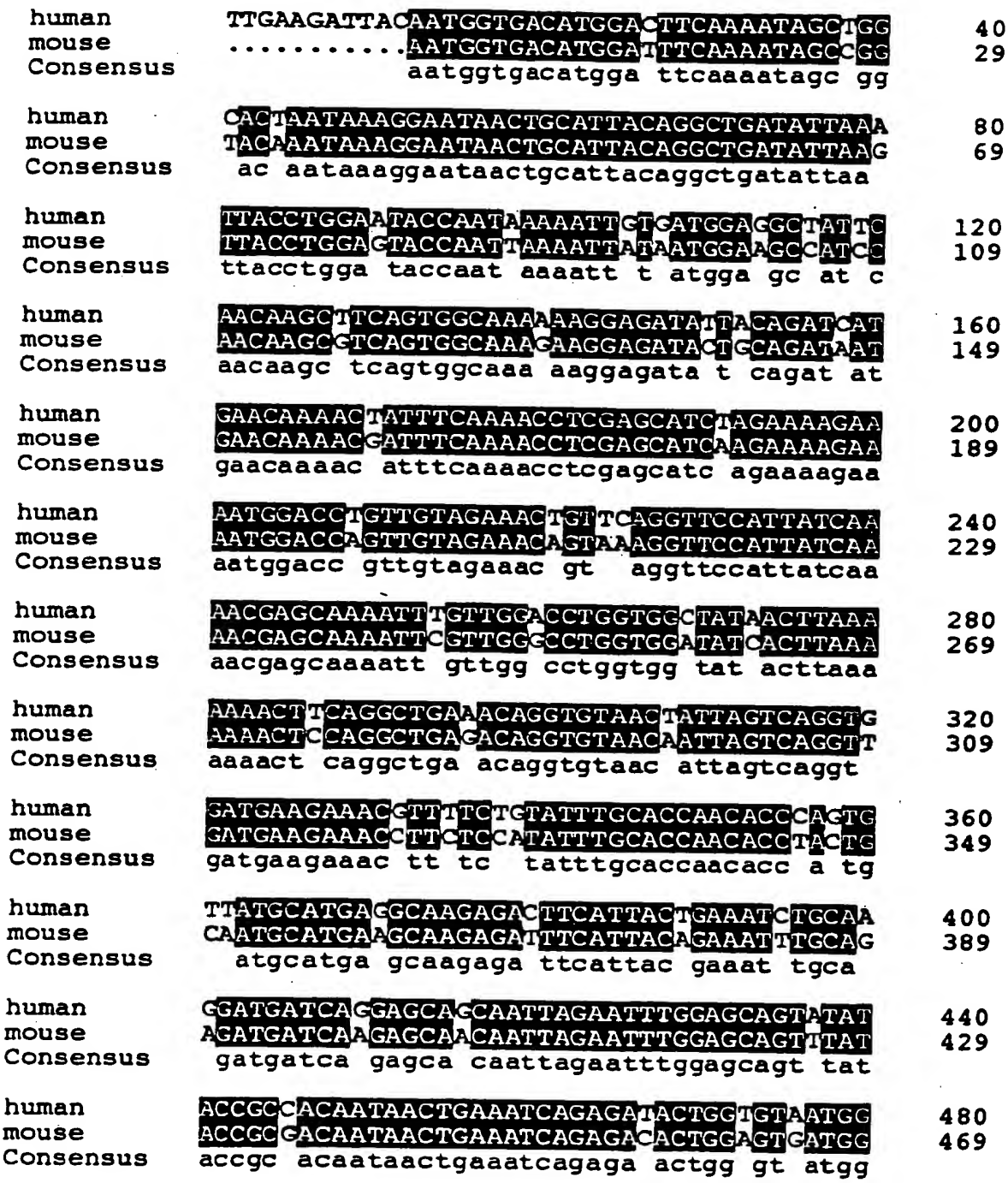

human TTGAAGATTACAATGGTGACATGGACTTCAAAATAGCTGG 40
mouse .....AATGGTGACATGGATTTCAAAATAGCCGG 29
Consensus aatggtgacatgga ttcaaaatagc gg
human CACTAATAAAGGAATAACTGCATTACAGGCTGATATTAAA 80
mouse TACAAATAAAGGAATAACTGCATTACAGGCTGATATTAAG 69
Consensus ac aataaaggaataactgcattacaggctgatattaa
human TTACCTGGAATACCAATAAAAATTGTGATGGAGGCTATTC 120
mouse TTACCTGGAGTACCAATTAAAATTATAATGGAAGCCATCC 109
Consensus ttacctgga taccaat aaaatt t atgga gc at c
human AACAAGCTTCAGTGGCAAAAAAGGAGATATTACAGATCAT 160
mouse AACAAGCGTCAGTGGCAAAGAAGGAGATACTGCAGATAAT 149
Consensus aacaagc tcagtggcaaa aaggagata t cagat at
human GAACAAAACTATTTCAAAACCTCGAGCATCTAGAAAAGAA 200
mouse GAACAAAACGATTTCAAAACCTCGAGCATCAAGAAAAGAA 189
Consensus gaacaaaac atttcaaaacctcgagcatc agaaaagaa
human AATGGACCTGTTGTAGAAACTGTTCAGGTTCCATTATCAA 240
mouse AATGGACCAGTTGTAGAAACAGTAAAGGTTCCATTATCAA 229
Consensus aatggacc gttgtagaaac gt aggttccattatcaa
human AACGAGCAAAATTTGTTGGACCTGGTGGCTATAACTTAAA 280
mouse AACGAGCAAAATTCGTTGGGCCTGGTGGATATCACTTAAA 269
Consensus aacgagcaaaatt gttgg cctggtgg tat acttaaa
human AAAACTTCAGGCTGAAACAGGTGTAACTATTAGTCAGGTG 320
mouse AAAACTCCAGGCTGAGACAGGTGTAACAATTAGTCAGGTT 309
Consensus aaaact caggctga acaggtgtaac attagtcaggt
human GATGAAGAAACGTTTTCTGTATTTGCACCAACACCCAGTG 360
mouse GATGAAGAAACCTTCTCCATATTTGCACCAACACCTACTG 349
Consensus gatgaagaaac tt tc tatttgcaccaacacc a tg
human TTATGCATGAGGCAAGAGACTTCATTACTGAAATCTGCAA 400
mouse CAATGCATGAAGCAAGAGATTTCATTACAGAAATTTGCAG 389
Consensus atgcatga gcaagaga ttcattac gaaat tgca
human GGATGATCAGGAGCAGCAATTAGAATTTGGAGCAGTATAT 440
mouse AGATGATCAAGAGCAACAATTAGAATTTGGAGCAGTTTAT 429
Consensus gatgatca gagca caattagaatttggagcagt tat
human ACCGCCACAATAACTGAAATCAGAGATACTGGTGTAATGG 480
mouse ACCGCGACAATAACTGAAATCAGAGACACTGGAGTGATGG 469
Consensus accgc acaataactgaaatcagaga actgg gt atgg

FIG. 4B


human TAAAATTATATCCAAATATGACTGCGGTACTGCTTCATAA 520
mouse TAAAACTGTATCCAAACATGACTGCAGTGCTGCTTCATAA 509
Consensus taaaa t tatccaaa atgactgc gt ctgcttcataa
human CACACAACTTGAT.AACGAAAGATTAAACATCCTACTGCC 559
mouse TTCACAACTTGACCAACGAAAGATTAAACATCCCACTGCC 549
Consensus cacaacttga aacgaaagattaaacatcc actgcc
human CTAGGATTAGAAGTTGGCCAAGAAATTCAGGTGAAATACT 599
mouse CTAGGACTAGAGGTTGGCCAAGAAATTCAGGTCAAATACT 589
Consensus ctagga taga gttggccaagaaattcaggt aaatact
human TTGGACGTGACCCAGCCGATGGAAGAATGAGGCTTTCTCG 639
mouse TTGGCCGTGATCCAGCTGATGGAAGAATGAGGCTTTCTCG 629
Consensus ttgg cgtga ccagc gatggaagaatgaggctttctcg
human AAAAGTGCTTC 650
mouse TAAAGTACTTC 640
Consensus aaagt cttc

FIG. 5

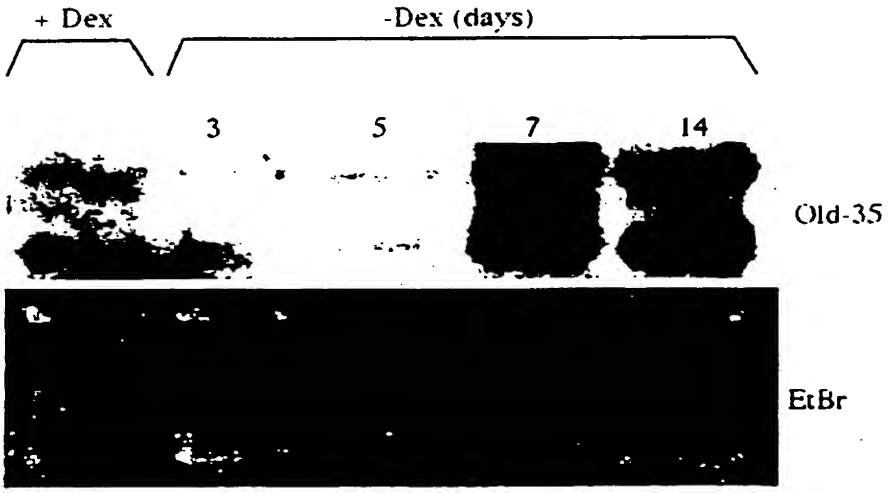


FIG. 6

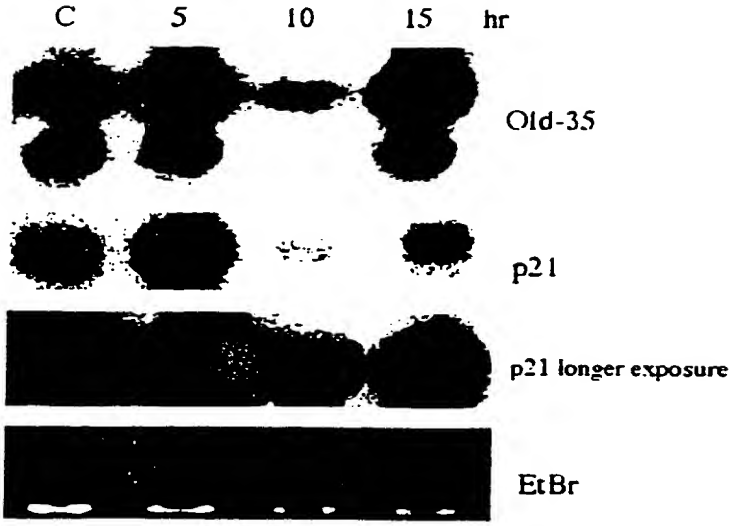


FIG. 7

Hu GM-CSF	UAAUAUUUAUAUAUUUAUAUUUUUAAAAUAUUUAUUUAUUUAUUUAA
Hu IFN-α	UAUUUAUUUAA
Hu Il 2	UAUUUAUUUAAAUAUUUAAAUUUUAUAUUUAAU
Hu TNF	AAUUAAUUUAUUAUUUAUUUAUUAUUUAUUUAUU
C-fos	GUUUUUAAUUUAUUUAUUAAGAUGGAUUCUCAGAUAUUUAUAUUUUUU
	AUUUUAUUUUUUUU
Old-35	AUUUACAUGUGCCAUUUUUUUAAUUCGAGUAACCCAUAUUUGUUUAAUU
	GUAUUUACAUUAUAAAUCAAGAAAUAUUUAUUAUUAAAAGUAAGUC
	AUUUAUACAUCUUAGA

FIG. 8A

Response of Old-35
To IFN-β Treatment
In the Presence of Cyclohexamide

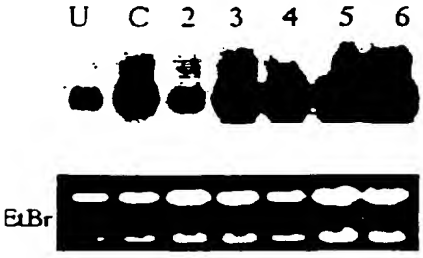


FIG. 8B

Half-life of Old-35 in IFN-β+MEZ
Treated HO-1

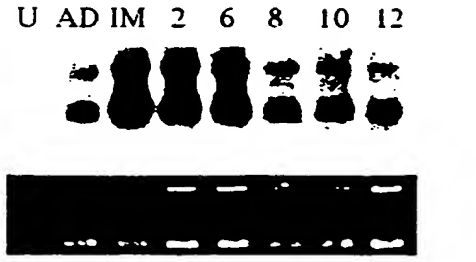


FIG. 9A

GATGGTCCTT TCCTTCTGCC ACGGCGGGAT CGGGCACTCA CCCAGTTGCA
AGTGCGAGCA CTATGGAGTA GCGCAGGGTC TCGAGCTGTG GCCGTGGACT
TAGGCAACAG GAAATTAGAA ATATCTTCTG GAAAGCTGGC CAGATTTGCA
GATGGCTCTG CTGTAGTACA GTCAGGTGAC ACTGCAGTAA TGGTCACAGC
GGTCAGTAAA ACAAAACCTT CCCCTTCCCA GTTTATGCCT TTGGTGGTTG
ACTACAGACA AAAAGCTGCT GCAGCAGGTA GAATTCCCAC AAACTATCTG
AGAAGAGAGG TTGGTACTTC TGATAAAGAA ATTCTAACAA GTCGAATAAT
AGATCGTTCA ATTAGACCGC TCTTTCCAGC TGGCTACTTC TATGATACAC
AGGTTCTGTG TAATCTGTTA GCAGTAGATG GTGTAAATGA GCCTGATGTC
CTAGCAATTA ATGGCGCTTC CGTAGCCCTC TCATTATCAG ATATTCCTTG
GAATGGACCT GTTGGGGCAG TACGAATAGG AATAATTGAT GGAGAATATG
TTGTTAACCC AACAAGAAAA GAAATGTCTT CTAGTACTTT AAATTTAGTG
GTTGCTGGAG CACCTAAAAG TCAGATTGTC ATGTTGGAAG CCTCTGCAGA
GAACATTTTA CAGCAGGACT TTTGCCATGC TATCAAAGTG GGAGTGAAAT
ATACCCAACA AATAATTCAG GGCATTCAGC AGTTGGTAAA AGAAACTGGT
GTTACCAAGA GGACACCTCA GAAGTTATTT ACCCCTTCGC CAGAGATTGT
GAAATATACT CATAAACTTG CTATGGAGAG ACTCTATGCA GTTTTTACAG
ATTACGAGCA TGACAAAGTT TCCAGAGATG AAGCTGTTAA CAAAATAAGA
TTAGATACGG AGGAACAACT AAAAGAAAAA TTTCCAGAAG CCGATCCATA
TGAAATAATA GAATCCTTCA ATGTTGTTGC AAAGGAAGTT TTTAGAAGTA
TTGTTTTGAA TGAATACAAA AGGTGCGATG GTCGGGATTT GACTTCACTT
AGGAATGTAA GTTGTGAGGT AGATATGTTT AAAACCCTTC ATGGATCAGC
ATTATTTCAA AGAGGACAAA CACAGGTGCT TTGTACCGTT ACATTTGATT
CATTAGAATC TGGTATTAAG TCAGATCAAG TTATAACAGC TATAAATGGG
ATAAAAGATA AAAATTTCAT GCTGCACTAC GAGTTTCCTC CTTATGCAAC
TAATGAAATT GGCAAAGTCA CTGGTTTAAA TAGAAGAGAA CTTGGGCATG
GTGCTCTTGC TGAGAAAGCT TTGTATCCTG TTATTCCCAG AGATTTTCCT
TTCACCATAA GAGTTACATC TGAAGTCCTA GAGTCAAATG GGTCATCTTC
TATGGCATCT GCATGTGGCG GAAGTTTAGC ATTAATGGAT TCAGGGGTTC
CAATTTCATC TGCTGTTGCA GGCGTAGCAA TAGGATTGGT CACCAAAACC
GATCCTGAGA AGGGTGAAAT AGAAGATTAT CGTTTGCTGA CAGATATTTT
GGGAATTGAA GATTACAATG GTGACATGGA CTTCAAAATA GCTGGCACTA
ATAAAGGAAT AACTGCATTA CAGGCTGATA TTAAATTACC TGGAATACCA
ATAAAAATTG TGATGGAGGC TATTCAACAA GCTTCAGTGG CAAAAAAGGA
GATATTACAG ATCATGAACA AAACTATTTC AAAACCTCGA GCATCTAGAA
AAGAAAATGG ACCTGTTGTA GAAACTGTTC AGGTTCCATT ATCAAAACGA
GCAAAATTTG TTGGACCTGG TGGCTATAAC TTAAAAAAAC TTCAGGCTGA
AACAGGTGTA ACTATTAGTC AGGTGGATGA AGAAACGTTT TCTGTATTTG
CACCAACACC CAGTGTTATG CATGAGGCAA GAGACTTCAT TACTGAAATC
TGCAAGGATG ATCAGGAGCA GCAATTAGAA TTTGGAGCAG TATATACCGC
CACAATAACT GAAATCAGAG ATACTGGTGT AATGGTAAAA TTATATCCAA
ATATGACTGC GGTACTGCTT CATAACACAC AACTTGATAA CGAAAGATTA
AACATCCTAC TGCCCTAGGA TTAGAAGTTG GCCAAGAAAT TCAGGTGAAA
TACTTTGGAC GTGACCCAGC CGATGGAAGA ATGAGGCTTT CTCGAAAAGT
GCTTCAGTCG CCAGCTACAA CCGTGGTCAG AACTTTGAAT GACAGAAGTA
GTATTGTAAT GGGAGAACCT ATTTCACAGT CATCATCTAA TTCTCAGTGA
TTTTTTTTTT TTAAAGAGAA TTCTAGAATT CTATTTTGTC TAGGGTGATG
TGCTGTAGAG CAACATTTTA GTAGATCTTC CATTGTGTAG ATTTCTATAT
AATATAAATA CATTTTAATT ATTTGTACTA AAATGCTCAT TTACATGTGC
CATTTTTTTA ATTCGAGTAA CCCATATTTG TTTAATTGTA TTTACATTAT
AAATCAAGAA ATATTTATTA TTAAAAGTAA GTCATTTATA CATCTTAGA

FIG. 9B

DGPFLLPRRD RALTQLQVRA LWSSAGSRAV AVDLGNRKLE ISSGKLARFA
DGSAVVQSGD TAVMVTAVSK TKPSPSQFMP LVVDYRQKAA AAGRIPTNYL
RREVGTSDKE ILTSRIIDRS IRPLFPAGYF YDTQVLCNLL AVDGVNEPDV
LAINGASVAL SLSDIPWNGP VGAVRIGIID GEYVVNPTRK EMSSSTLNLV
VAGAPKSQIV MLEASAENIL QQDFCHAIKV GVKYTQQIIQ GIQQLVKETG
VTKRTPQKLF TPSPEIVKYT HKLAMERLYA VFTDYEHDKV SRDEAVNKIR
LDTEEQLKEK FPEADPYEII ESFNVVAKEV FRSIVLNEYK RCDGRDLTSL
RNVSCEVDMF KTLHGSALFQ RGQTQVLCTV TFDSLESGIK SDQVITAING
IKDKNFMLHY EFPPYATNEI GKVTGLNRRE LGHGALAEKA LYPVIPRDFP
FTIRVTSEVL ESNGSSSMAS ACGGSLALMD SGVPISSAVA GVAIGLVTKT
DPEKGEIEDY RLLTDILGIE DYNGDMDFKI AGTNKGITAL QADIKLPGIP
IKIVMEAIQQ ASVAKKEILQ IMNKTISKPR ASRKENGPVV ETVQVPLSKR
AKFVGPGGYN LKKLQAETGV TISQVDEETF SVFAPTPSVM HEARDFITEI
CKDDQEQQLE FGAVYTATIT EIRDTGVMVK LYPNMTAVLL HNTQLDNERL
NILLP·

FIG. 10A

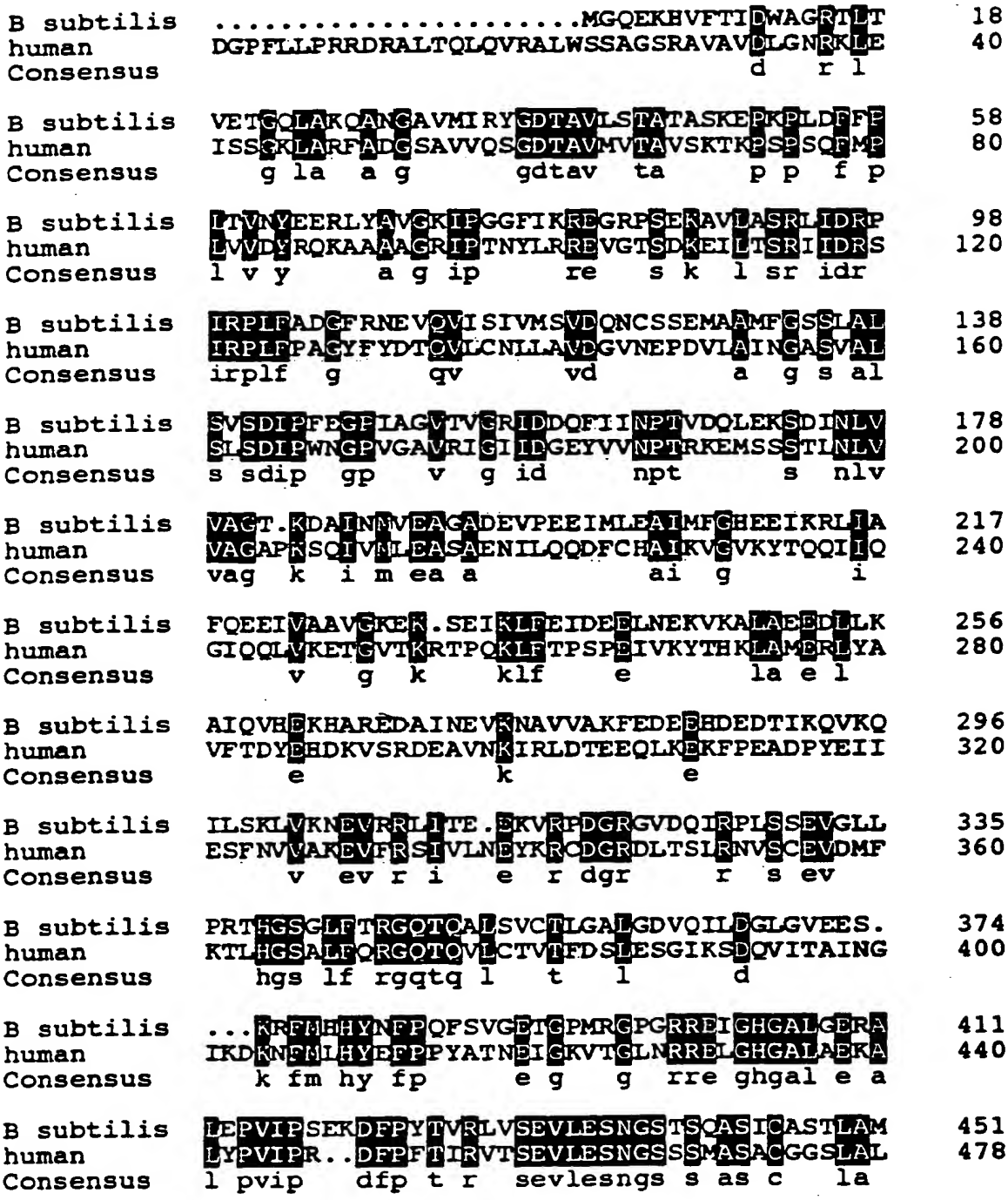
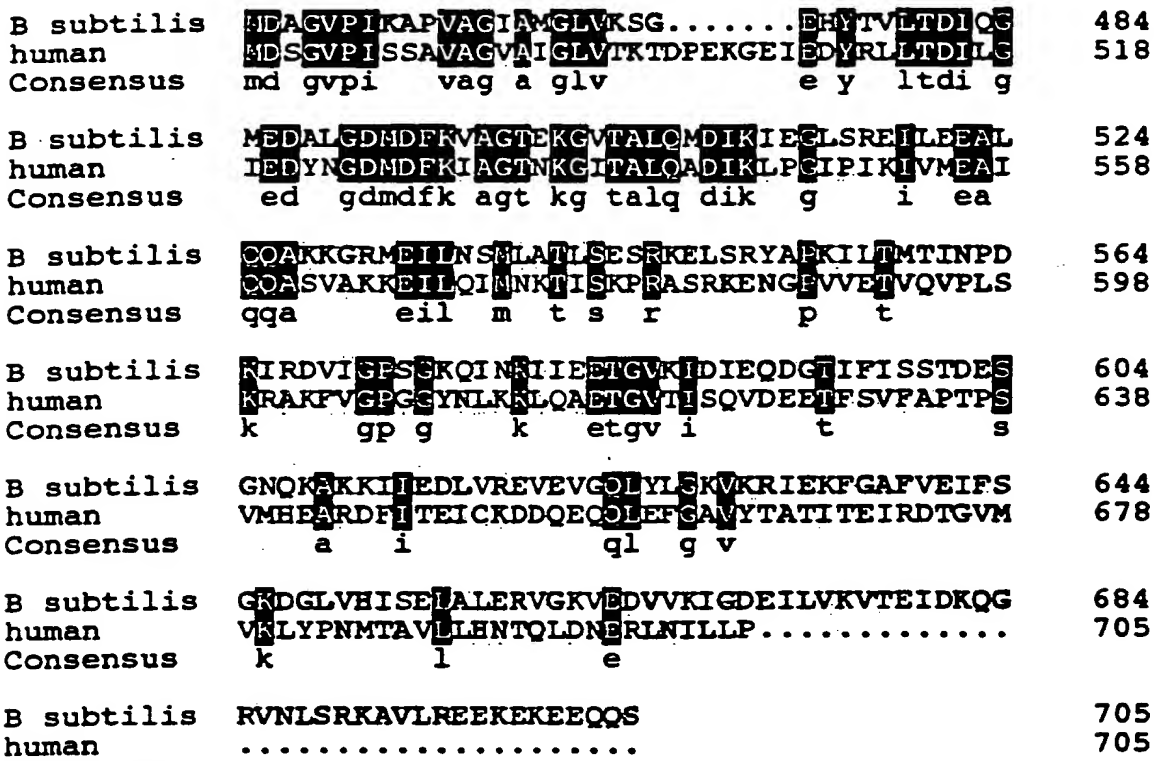

B subtilis .....MGQEKHVFTIDWAGRILT 18
human DGPFLLPRRDRALTQLQVRALWSSAGSRAVAVDLGNRKLE 40
Consensus d r l
B subtilis VETGQLAKQANGAVMIRYGDTAVLSTATASKEPKPLDFFP 58
human ISSGKLARFADGSAVVQSGDTAVMVTAVSKTKPSPSQFMP 80
Consensus g la a g gdtav ta p p f p
B subtilis LTVNYEERLYAVGKIPGGFIKREGRPSEKAVLASRLIDRP 98
human LVVDYRQKAAAAGRIPTNYLRREVGTSDKEILTSRIIDRS 120
Consensus l v y a g ip re s k l sr idr
B subtilis IRPLFADGFRNEVQVISIVMSVDQNCSSEMAAMFGSSLAL 138
human IRPLFPAGYFYDTQVLCNLLAVDGVNEPDVLAINGASVAL 160
Consensus irplf g qv vd a g s al
B subtilis SVSDIPFEGPIAGVTVGRIDDQFIINPTVDQLEKSDINLV 178
human SLSDIPWNGPVGAVRIGIIDGEYVVNPTRKEMSSSTINLV 200
Consensus s sdip gp v g id npt s nlv
B subtilis VAGT.KDAINMVEAGADEVPEEIMLEAIMFGHEEIKRLIA 217
human VAGAPKSQIVNLEASAENILQQDFCHAIKVGVKYTQQILQ 240
Consensus vag k i m ea a ai g i
B subtilis FQEEIVAAVGKEK.SEIKLFEIDEELNEKVKALAEEDLLK 256
human GIQQLVKETGVTKRTPQKLFTPSPEIVKYTHKLAMERLYA 280
Consensus v g k klf e la e l
B subtilis AIQVHEKHARKDAINEVKNAVVAKFEDEEHDEDTIKQVKQ 296
human VFTDYEHDKVSRDEAVNKIRLDTEEQLKEKFPEADPYEII 320
Consensus e k e
B subtilis ILSKLVKNEVRRLITE.EKVRPDGRGVDQIRPLSSEVGLL 335
human ESFNVVAKEVFRSIVLNEYKRCDGRDLTSLRNVSCEVDMF 360
Consensus v ev r i e r dgr r s ev
B subtilis PRTHGSGLFTRGQTQALSVCTLGALGDVQILDGLGVEES. 374
human KTLHGSALFQRGQTQVLCTVTFDSLESGIKSDQVITAING 400
Consensus hgs lf rgqtq l t l d
B subtilis ...KRFMHHYNFPQFSVGETGPMRGPGRREIGHGALGERA 411
human IKDKNFMLHYEFPPYATNEIGKVTGLNRRELGHGALAEKA 440
Consensus k fm hy fp e g g rre ghgal e a
B subtilis LEPVIPSEKDFPYTVRLVSEVLESNGSTSQASICASTLAM 451
human LYPVIPR..DFPFTIRVTSEVLESNGSSSMASACGGSLAL 478
Consensus l pvip dfp t r sevlesngs s as c la

FIG. 10B


B subtilis MDAGVPIKAPVAGIAMGLVKSG.....EHYTVLTDIQG 484
human MDSGVPISSAVAGVAIGLVTKTDPEKGEIEDYRLLTDILG 518
Consensus md gvpi vag a glv e y ltdi g
B subtilis MEDALGDMDFKVAGTEKGVTALQMDIKIEGLSREILEEAL 524
human IEDYNGDMDFKIAGTNKGITALQADIKLPGIPIKIVMEAI 558
Consensus ed gdmdfk agt kg talq dik g i ea
B subtilis CQAKKGRMEILNSMLATLSESRKELSRYAPKILTMTINPD 564
human CQASVAKKEILQIMNKTISKPRASRKENGPVVETVQVPLS 598
Consensus qqa eil m t s r p t
B subtilis KIRDVIGPSSKQINKIIEETGVKIDIEQDGTIFISSTDES 604
human KRAKFVGPGGYNLKKLQAETGVTLSQVDEETFSVFAPTPS 638
Consensus k gp g k etgv i t s
B subtilis GNQKAKKIIEDLVREVEVGQLYLSKVKRIEKFGAFVEIFS 644
human VMHEARDFITEICKDDQEQQLEFGAVYTATITEIRDTGVM 678
Consensus a i ql g v
B subtilis GKDGLVHISEIALERVGKVEDVVKIGDEILVKVTEIDKQG 684
human VKLYPNMTAVLLHNTQLDNERLNILLP..... 705
Consensus k l e
B subtilis RVNLSRKAVLREEKEKEEQQS 705
human 705
Consensus

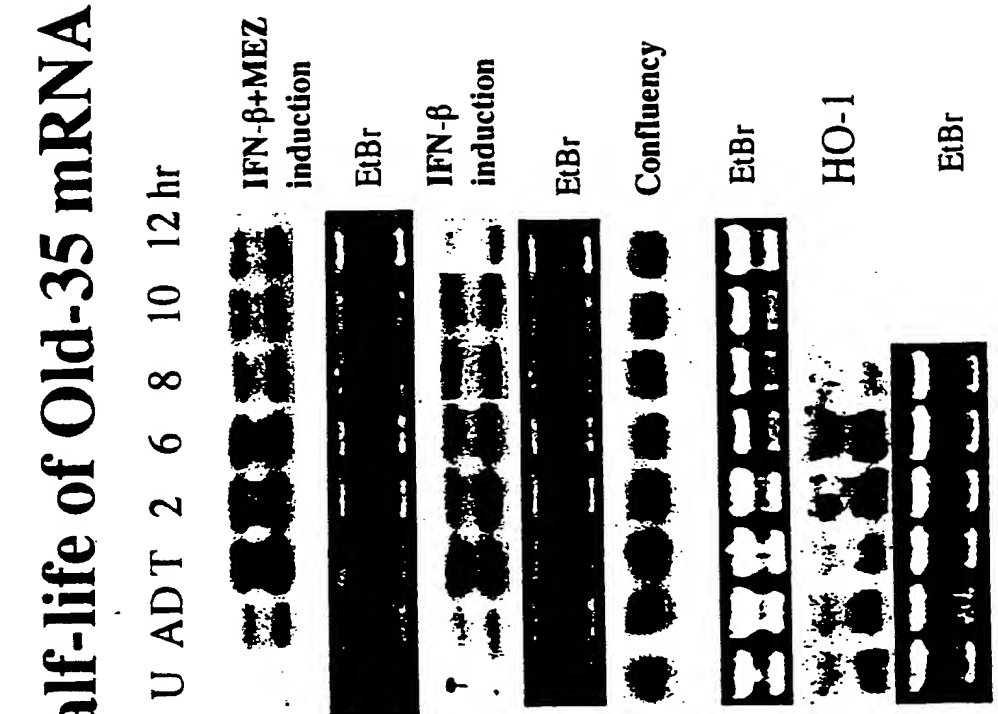

Half-life of Old-35 mRNA
U ADT 2 6 8 10 12 hr
IFN-β+MEZ induction
EtBr
IFN-β induction
EtBr
Confluency
EtBr
HO-1
EtBr

FIGURE 11

FIGURE 12

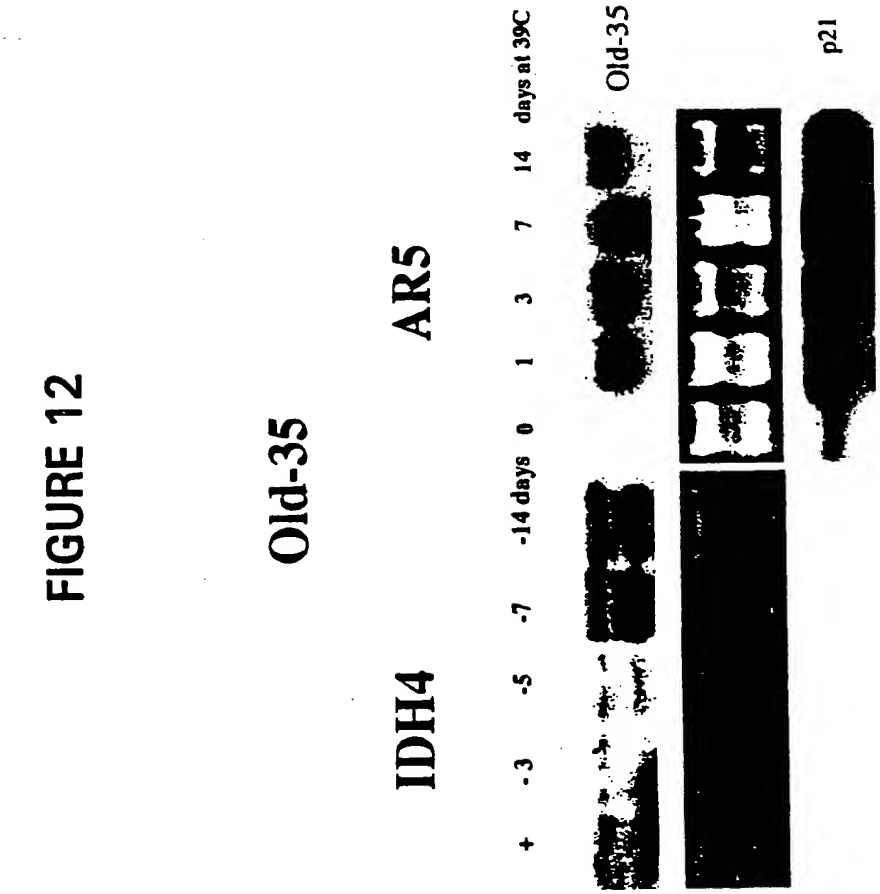


FIGURE 13

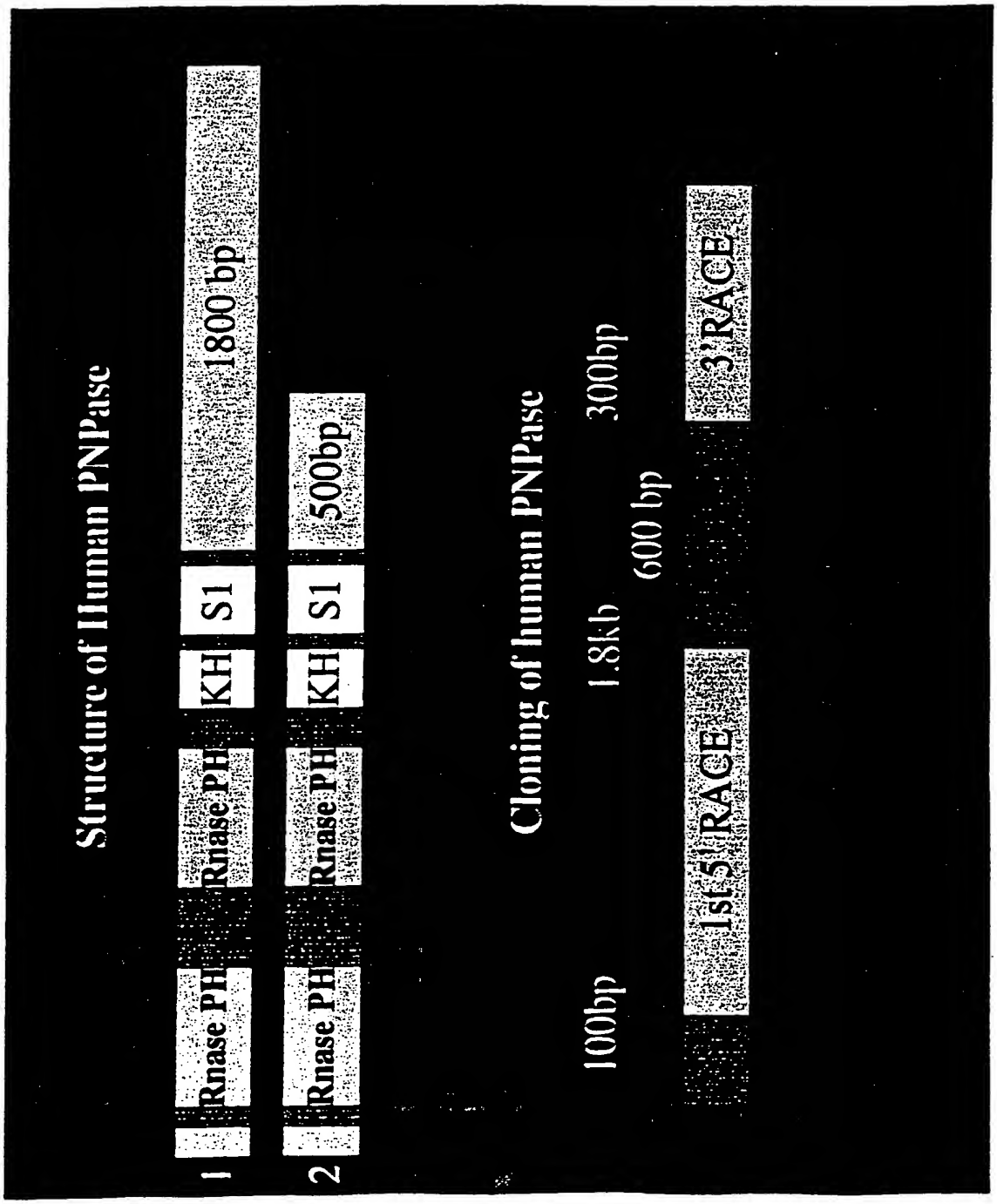

Structure of Human PNPase
1
Rnase PH
Rnase PH
KH
S1
1800 bp
2
Rnase PH
Rnase PH
KH
S1
500bp
Cloning of human PNPase
100bp
1.8kb
300bp
600 bp
1515 RACE
3'RACE

FIGURE 14

The effect of subtypes of IFN- α on Old-35 expression

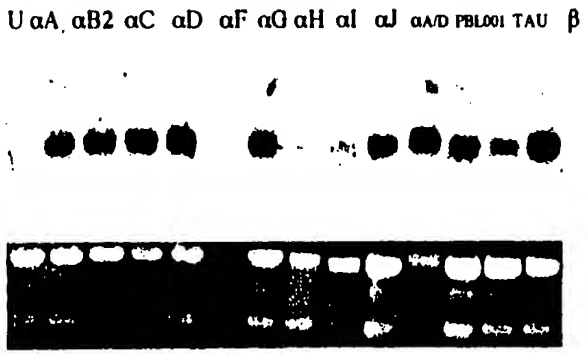
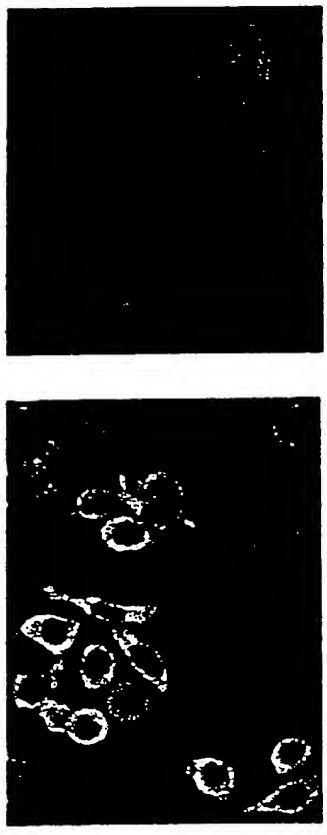


FIGURE 15

Old-35 is expressed in the spinal column and the genital area

FIGURE 16

Localization of Old-35 In HeLa cells



GFP-hPNPase
40X

GFP
100X